



NEB-228.ST25.txt
SEQUENCE LISTING

Morgan, Richard
Bhatia, Tanya

<120> A Novel Type II Restriction Endonuclease, CstMI, Obtainable From
Corynebacterium striatum M82B And A Process For Producing The
Same

<130> NEB-228

<160> 17

<170> PatentIn version 3.2

<210> 1

<211> 2859

<212> DNA

<213> CstMI gene locus

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      35      40      45
Trp Gly Asp Leu Leu Asp Cys Phe Gly Val Asn Ala Arg Asp Leu Tyr
      50      55      60
Leu Tyr Gln Arg Ser Ala Lys Arg Ala Ser Thr Gly Arg Thr Gly Lys
      65      70      75      80
Ile Asp Met Phe Met Pro Gly Lys Val Ile Gly Glu Ala Lys Ser Leu
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Gly Val Pro Leu Asp Asp Ala Tyr Ala Gln Ala Leu Asp Tyr Leu Leu
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Gly Gly Thr Ile Ala Asn Ser His Met Pro Ala Tyr Val Val Cys Ser
      115      120      125
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Asp Ser Ala Asp Trp Asp Ile Thr Phe Pro Leu Ala Glu Ile Asp Glu
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His Ile Glu Gln Leu Ala Phe Leu Ala Asp Tyr Glu Thr Ser Ala Tyr
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Ser Ile Tyr Leu Thr Arg Ile Leu Phe Leu Leu Phe Gly Asp Asp Ala
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Gly Leu Trp Asp Thr Pro His Leu Phe Ala Asp Phe Val Arg Asn Glu
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 290 295 300
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 305 310 315 320
 Asp Phe Asp Trp Ser Thr Ile Asp Val Ser Val Phe Gly Ser Leu Phe
 325 330 335
 Gln Leu Val Lys Ser Lys Glu Ala Arg Arg Ser Asp Gly Glu His Tyr
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 Thr Ser Lys Ala Asn Ile Met Lys Thr Ile Gly Pro Leu Phe Leu Asp
 355 360 365
 Glu Leu Arg Ala Glu Ala Asp Lys Leu Val Ser Ser Pro Ser Thr Ser
 370 375 380
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 385 390 395 400
 Ala Asp Met Ala Cys Gly Ser Gly Asn Phe Leu Leu Leu Ala Tyr Arg
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 Glu Leu Arg Arg Ile Glu Thr Asp Ile Ile Val Ala Ile Arg Gln Arg
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 Arg Gly Glu Thr Gly Met Ser Leu Asn Ile Glu Trp Glu Gln Lys Leu
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 Ser Ile Gly Gln Phe Tyr Gly Ile Glu Leu Asn Trp Trp Pro Ala Lys
 450 455 460
 Ile Ala Glu Thr Ala Met Phe Leu Val Asp His Gln Ala Asn Lys Glu
 465 470 475 480
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 Thr Ala His Ile Val His Gly Asn Ala Leu Gln Leu Asp Trp Ala Asp
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Ile Leu Ser Ala Ser Ala Ala Lys Thr Tyr Ile Phe Gly Asn Pro Pro
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Asp Leu Trp Gly Thr Lys Asp Ile Ser Arg Leu Asp Tyr Val Thr Gly
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Ala Phe Val Thr Thr Asn Ser Ile Thr Gln Gly Asp Gln Val Pro Arg
580 585 590

Leu Phe Gly Pro Ile Phe Lys Ala Gly Trp Arg Ile Arg Phe Ala His
595 600 605

Arg Thr Phe Ala Trp Asp Ser Glu Ala Pro Gly Lys Ala Ala Val His
610 615 620

Cys Val Ile Val Gly Phe Asp Lys Glu Ser Gln Pro Arg Pro Arg Leu
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Trp Asp Tyr Pro Asp Val Lys Gly Glu Pro Val Ser Val Glu Val Gly
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Gln Ser Ile Asn Ala Tyr Leu Val Asp Gly Pro Asn Val Leu Val Asp
660 665 670

Lys Ser Arg His Pro Ile Ser Ser Glu Ile Ser Pro Ala Thr Phe Gly
675 680 685

Asn Met Ala Arg Asp Gly Gly Asn Leu Leu Val Glu Val Asp Glu Tyr
690 695 700

Asp Glu Val Met Ser Asp Pro Val Ala Ala Lys Tyr Val Arg Pro Phe
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Arg Gly Ser Arg Glu Leu Met Asn Gly Leu Asp Arg Trp Cys Leu Trp
725 730 735

Leu Val Asp Val Ala Pro Ser Asp Ile Ala Gln Ser Pro Val Leu Lys
740 745 750

Lys Arg Leu Glu Ala Val Lys Ser Phe Arg Ala Asp Ser Lys Ala Ala
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Ser Thr Arg Lys Met Ala Glu Thr Pro His Leu Phe Gly Gln Arg Ser
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Gln Pro Asp Thr Asp Tyr Leu Cys Leu Pro Lys Val Val Ser Glu Arg
785 790 795 800

Arg Ser Tyr Phe Thr Val Gln Arg Tyr Pro Ser Asn Val Ile Ala Ser
805 810 815

Asp Leu Val Phe His Ala Gln Asp Pro Asp Gly Leu Met Phe Ala Leu
820 825 830

Ala Ser Ser Ser Met Phe Ile Thr Trp Gln Lys Ser Ile Gly Gly Arg
835 840 845

Leu Lys Ser Asp Leu Arg Phe Ala Asn Thr Leu Thr Trp Asn Thr Phe
850 855 860

Pro Val Pro Glu Leu Asp Glu Lys Thr Arg Gln Arg Ile Ile Lys Ala
865 870 875 880

Gly Lys Lys Val Leu Asp Ala Arg Ala Leu His Pro Glu Arg Ser Leu
885 890 895

Ala Glu His Tyr Asn Pro Leu Ala Met Ala Pro Glu Leu Ile Lys Ala
900 905 910

His Asp Ala Leu Asp Arg Glu Val Asp Lys Ala Phe Gly Ala Pro Arg
915 920 925

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35 40 45

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Glu Lys Ala Ser Leu Glu Ala Ser Arg Leu Met Val Glu Leu Phe Arg
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Ala Met Asn Gly Asp Asp Val Asp Glu Ala Val Gly Asp Asp Ala Pro
180 185 190

Thr Thr Pro Glu Glu Glu Asp Glu Arg Val Met Arg Thr Ser Ile Tyr
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Leu Thr Arg Ile Leu Phe Leu Leu Phe Gly Asp Asp Ala Gly Leu Trp
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Asp Thr Pro His Leu Phe Ala Asp Phe Val Arg Asn Glu Thr Thr Pro
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225 230 235 240
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Thr Thr Asn Ser Ile Thr Gln Gly Asp Gln Val Pro Arg Leu Phe Gly
 565 570 575

Pro Ile Phe Lys Ala Gly Trp Arg Ile Arg Phe Ala His Arg Thr Phe
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Ala Trp Asp Ser Glu Ala Pro Gly Lys Ala Ala Val His Cys Val Ile
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Val Gly Phe Asp Lys Glu Ser Gln Pro Arg Pro Arg Leu Trp Asp Tyr
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His Pro Ile Ser Ser Glu Ile Ser Pro Ala Thr Phe Gly Asn Met Ala
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Arg Asp Gly Gly Asn Leu Leu Val Glu Val Asp Glu Tyr Asp Glu Val
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Met Ser Asp Pro Val Ala Ala Lys Tyr Val Arg Pro Phe Arg Gly Ser
 690 695 700

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Val Ala Pro Ser Asp Ile Ala Gln Ser Pro Val Leu Lys Lys Arg Leu
 725 730 735

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Glu Ala Val Lys Ser Phe Arg Ala Asp Ser Lys Ala Ala Ser Thr Arg
740 745 750

Lys Met Ala Glu Thr Pro His Leu Phe Gly Gln Arg Ser Gln Pro Asp
755 760 765

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770 775 780

Phe Thr Val Gln Arg Tyr Pro Ser Asn Val Ile Ala Ser Asp Leu Val
785 790 795 800

Phe His Ala Gln Asp Pro Asp Gly Leu Met Phe Ala Leu Ala Ser Ser
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Ser Met Phe Ile Thr Trp Gln Lys Ser Ile Gly Gly Arg Leu Lys Ser
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Val Leu Asp Ala Arg Ala Leu His Pro Glu Arg Ser Leu Ala Glu His
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Tyr Asn Pro Leu Ala Met Ala Pro Glu Leu Ile Lys Ala His Asp Ala
885 890 895

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 35 40 45
 Lys Lys Phe Ala Lys Ala His Lys Glu Gln Ser Arg Gly Phe Val Asp
 50 55 60
 Leu Phe Trp Pro Gly Ile Leu Leu Ile Glu Met Lys Ser Arg Gly Lys
 65 70 75 80
 Asp Leu Asp Lys Ala Tyr Asp Gln Ala Leu Asp Tyr Phe Ser Gly Ile
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 Ala Glu Arg Asp Leu Pro Arg Tyr Val Leu Val Cys Asp Phe Gln Arg
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 Glu Thr Lys Thr Leu Glu Asp Gly Ser Asp Leu Ala His His Ile Asn
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 Thr Leu Phe Tyr Val Leu Asn Thr Pro Glu Gln Lys Arg Leu Lys Asn
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 Leu Asp Glu His Leu Ala Ala Phe Pro Tyr Ile Asn Gly Lys Leu Phe
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 Pro Leu Phe Leu Asp Glu Leu Trp Val Glu Phe Glu Lys Val Lys Asn
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Thr Phe Ser Trp Thr Asn Glu Ala Ser Gly Val Ala Ala Val His Cys
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Val Ile Ile Gly Phe Gly Leu Lys Asp Ser Asp Glu Lys Ile Ile Tyr
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Glu Tyr Glu Ser Ile Asn Gly Glu Pro Leu Ala Ile Lys Ala Lys Asn
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Ile Asn Pro Tyr Leu Arg Asp Gly Val Asp Val Ile Ala Cys Lys Arg
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Gln Gln Pro Ile Ser Lys Leu Pro Ser Met Arg Tyr Gly Asn Lys Pro
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Gly Ala Asp Ile Ser Glu Ile Arg Ala Met Pro Leu Val Leu Ala Arg
690 695 700

Ile Lys Lys Val Gln Glu Phe Arg Leu Lys Ser Ser Ala Lys Pro Thr
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Arg Gln Ser Ala Ser Thr Pro Met Lys Phe Phe Tyr Ile Ser Gln Pro
725 730 735

Asp Thr Asp Tyr Leu Leu Ile Pro Glu Thr Ser Ser Glu Asn Arg Gln
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Phe Ile Pro Ile Gly Phe Val Asp Arg Asn Val Ile Ser Ser Asn Ala
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755

760

765

Thr Tyr His Ile Pro Ser Ala Glu Pro Leu Ile Phe Gly Leu Leu Ser
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Ser Thr Met His Asn Cys Trp Met Arg Asn Val Gly Gly Arg Leu Glu
 785 790 795 800

Ser Arg Tyr Arg Tyr Ser Ala Ser Leu Val Tyr Asn Thr Phe Pro Trp
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Ile Gln Pro Asn Glu Lys Gln Ser Lys Ala Ile Glu Glu Ala Ala Phe
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Ala Ile Leu Lys Ala Arg Ser Asn Tyr Pro Asn Glu Ser Leu Ala Gly
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Leu Tyr Asp Pro Lys Thr Met Pro Ser Glu Leu Leu Lys Ala His Gln
 850 855 860

Lys Leu Asp Lys Ala Val Asp Ser Val Tyr Gly Phe Lys Gly Pro Asn
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